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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	:	PATENT
	:	
Jan TUMA	:	Confirmation No. 4119
	:	
Serial No.: 10/577,233	:	Art Unit: 1744
	:	
Filed: April 26, 2006	:	Examiner: A. A. Abraham
	:	
For: PROCESS FOR CREATING	:	Appeal No. _____
ADHESION ELEMENTS ON A	:	
SUBSTRATE MATERIAL	:	

**APPELLANT'S REPLY BRIEF**  
**ON APPEAL UNDER 37 C.F.R. §41.41**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

For the appeal to the Board of Patent Appeals and Interferences from the decisions dated September 28, 2010 and December 13, 2010 of the Primary Examiner twice and finally rejecting claims 10, 14, 16, 18, 20-22, 26, 28, 30, 32-34, 38, 40, 42 and 44-51 in connection with the above-identified application, Applicant-Appellant submits the following reply brief in accordance with 37 CFR §41.41 and responding to the April 11, 2011 Examiner's Answer.

**Arzt Publication Does Not Disclose Claimed Curvature**

The Arzt publication does not disclose or teach forming an adhesion element having a decreased radius of curvature at an inner end  $E_1$  and an increased radius of curvature  $E_2$  in FIG.

7, part f that corresponds to the claim language. This allegation regarding this teaching of the Arzt publication is raised for the first time in the prosecution of this application on page 7 of the Examiner's Answer.

The Arzt publication, FIG. 7, part f discloses a multipart design of a head part 16 of projection 12 where the head part 16 has a higher elasticity module  $E_2$  while the front surface has a material of reduced elasticity module  $E_1$ . The head part 16 is semispherical or semicylindrical at its front surface based on the representation of FIG. 7, part f. In this representation, the portion of reduced elasticity module  $E_1$  is either cylindrical or a polygonal solid. Despite any of these interpretations of the FIG. 7, part f illustration, none provides a continuously curved concave path formed by a continuously curved convex path in a mold as required in the claims of this application. The portion  $E_2$  would appear to have an infinite radius of curvature along its entire length, since a straight line is provided that is not curved. The curved path on portion  $E_1$  does not provide the continuous curved path as required. Thus, the Arzt publication does not provide a curved path as recited in the claims of this application.

Even if this part of the Arzt publication was produced in a mold, the mold would not have the configuration recited in the independent claims of this application.

Thus, the Arzt publication does not disclose or render obvious use of a mold with the continuously curved convex path and with the increased and decreased radii of curvature, as recited in the claims.

#### Arzt and Tuma Structures Not Related and Not Obvious to Combine

Contrary to the allegation contained in the bottom of page 7, the Arzt and Tuma publications do not teach many shapes of adhesion structures. Specifically, while the Arzt publication teaches various adhesion structures, it does not provide those structures with a

hyperboloid and convexly curved configuration that results from the claimed process. The Tuma publication, despite disclosing a hyperboloid and concave configuration for its molded structures, the Tuma structures are not adhesion elements that operate by Van der Waals forces. Rather, the Tuma publication relates solely to an adhesive element that engages a corresponding loop, hook or mushroom head. The substantial different functions of the structures of the Arzt publication compared to the structures of the Tuma publication demonstrate that one of ordinary skill in the art would not use the Tuma publication teachings in the system of the Arzt publication. No common problem or reason is provided in the statement of the rejection to show that the proposed combination is obvious and is merely a minor difference that does not rise to the level of a patentable difference for the purposes of 35 U.S.C. § 103 as alleged on page 8 of the Examiner's Answer.

In view of the different operation and purpose of the structure of the Tuma publication, it would not be obvious to use its hyperboloid structure in the system of the Arzt publication. The Arzt publication is an adhesion structure while the Tuma publication relates to an adhesive structure. These two structures are recognized as being different. No evidence is provided to show any relationship or common problem or reason for making the combination in the rejection obvious. Interlocking by complimentary structures of the Tuma publication and the Van der Waals adhesion structure of the Arzt publication operate so differently that one of ordinary skill in the art would not apply the teachings of one to the other.

Thus, the additional allegations contained in section (12) viii on page 6 of the Examiner's Answer and ix on page 7-8 of the Examiner's Answer do not adequately support and demonstrate that the rejections of the claims is proper and should be affirmed.

### Thixotropic Polyvinyl Siloxane Is Adequately Disclosed

At the top of page 13 of the Examiner's Answer, the Examiner states for the first time that the substitute specification only discloses an elastomer such as polyvinyl siloxane or thixotropic. However, the substitute specification at page 9, lines 13-14, clearly indicates that the use of thixotropic materials of the type disclosed on page 9, lines 10-12 is especially advantageous. Thus, applicant does not take a contrary position arguing that the claims are patentably distinguishable by the use of thixotropic polyvinyl siloxane.

### Combined Features of Claims Are Patentably Distinguishable

While the arguments contained in the last full two paragraphs on page 13 of the Examiner's Answer and the paragraphs spanning pages 13-14 of the Examiner's Answer allege that certain densities and dimensions recited in the claims may come within the broad ranges disclosed in the Arzt publication, there is no disclosure in the Arzt publication considered alone or in any obvious publication with the Tuma publication of the unique combination of shape, materials, density and dimensions recited in the claims to provide an adhesion element operated by Van der Waals forces. This unique combination patentably distinguishes the subject matter of the claims on appeal.

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The remaining allegations in the Examiner's Answer are fully addressed in the previously filed Brief on Appeal.

Conclusion

In view of the foregoing reasons and those contained in the Brief on Appeal, the rejections of claims 10, 14, 16, 18, 20-22, 26, 28, 30, 32-34, 38, 40, 42 and 44-51 under 35 U.S.C. § 103 are untenable and a decision reversing those rejection is requested.

Respectfully submitted,



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Dated: April 26 2011